

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

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In the Matter of)

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Amendment of Parts 73 and 74 of
the Commission's Rules to permit
unattended operation of broadcast
stations and to update broadcast
station transmitter control and
monitoring requirements.)

MM Docket No. 94-130

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COMMENTS OF BURK TECHNOLOGY, INC.

Burk Technology, Inc. has produced transmitter remote control equipment for broadcast stations since 1985. The undersigned is president of Burk Technology, and has twenty years experience as a chief engineer for various broadcast licensees. Our comments reflect our field experience, plus the experience of working with thousands of broadcasters specifically in the area of transmitter control and monitoring. The comments which follow are referenced by paragraph number to the captioned document.

3. We agree that the Restricted Radiotelephone Operator Permit serves very little to assure the quality of broadcast station operators, and support the removal of such requirement, regardless of the type of operation (attended, remote control or unattended).
7. The shift from step-by-step "how to" language in the rules has been acted upon in a responsible manner by most of the broadcasters with whom we have contact. An undesirable side effect, however, has been the lack of uniform enforcement from one field office to another. We feel that the rules should be clear enough to permit a broadcaster to operate in any district without fear.
8. We believe a concise, unambiguous set of requirements will encourage broadcasters to act responsibly.
9. While we agree with the flexibility afforded by this method, we don't think the use of "specially designed, highly stable state-of-the-art transmitters" is feasible without some type of monitoring and control. In any case, the need to remove a transmitter from the air might not be due to a transmitter malfunction. Intermodulation, for instance, occurs

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between two transmitters that may be operating perfectly.

10. If the broadcaster is permitted to employ an ATS system which simply removes a faulty transmitter from the air, we feel that certain broadcasters would remain off the air until the licensee happened to notice. A notification requirement would better serve the public interest by helping to assure continued operation of these stations. We would caution that the period of time allowed should not be excessively short, as this could lead to "nuisance trips", causing unnecessary interruptions of service or the ultimate disabling of the offending samples.

12. We are not aware of any circumstances in which unattended station operation would be problematic. The monitoring of AM directionals, although less than ideal now, is not noticeably better at attended stations. Equipment exists today that can monitor the switch from daytime to nighttime antenna pattern (and vice versa). For these stations to be fully automated would only require that the rules specify a suitable means of verification (such as an independent or automatically corrected time reference) and an acceptable window during which the switch could take place. We would caution that an unverified switch should be specifically excluded, as the chances for continued operation at the wrong power level are very high and the potential interference is great.

13. If broadcasters are to be permitted to continue attended and remote control operation, it should be made clear whether additional requirements are being made with these rule changes. The current rules do not specify any type of alarms for attended or remote control operation. An out of tolerance condition is only observed when the duty operator specifically reads the meters for the purpose of determining compliance. The proposed rule changes would effectively require the addition of alarm circuits for all stations in order to meet the three minute requirement. We feel that operators should be able to continue attended and remote control operation without the addition of alarm equipment, and that this can best be accomplished by reestablishing a maximum time period between observations.

15. Tower light monitoring is of great concern and should be addressed directly and specifically in this proceeding. The current practice is deficient in two areas. First, licensees are only required to observe the lights once each day, creating a potential safety hazard for at least one night. Second, the common practice today is to use a current transformer to determine proper operation of the beacon and the obstruction lights. In the days of analog meters, a current transformer was marginally satisfactory, since the ballistics of the meter created a smooth swing from off to on, and a human operator could differentiate very small changes from a known good signature. With digital remote controls, this complex signature is obscured. There exist today several techniques for accurately determining the condition of the lights continuously. The cost of manufacture of these devices is somewhat greater than the current transformers now employed, preventing their widespread use today. We feel that, considering the importance of this function and the high number of citations for failures, the rules should specifically require

continuous monitoring of sufficient accuracy to determine the failure of the code beacon.. We also feel that a system of direct telephone notification to the FAA as well as to the licensee would be valuable. This technology currently exists at many stations, given a proper tower light monitor. The rules should also specifically state whether monitoring is to include failure of any tower lamp or, as we would suggest, specifically the beacon.

16. The lack of an end of message tone in the current EBS system confounds efforts to reliably automate this function. We would also support the view that this proceeding gives additional incentive to the rapid deployment of the new EAS system.

29. The Commission proposal for a three minute definition of "Immediate" as is used in the current ATS rules is not a realistic one. Even at facilities with operators on duty the detection of an apparent out of tolerance condition should not lead to an immediate cessation of operation. Some conditions may be corrected more quickly than others, because some require a reasonable time to diagnose. On the other hand, the rule should not allow such a long time limit that out of tolerance operation is extended for long periods. A limit of 30 minutes is, in our view, the lower limit of a reasonable time. It should allow paging or calling support personnel by a duty operator or by an automatic system, and allow a modest but reasonable time to ascertain if the fault is real or merely an artifact of the monitoring or control system. Our experience with many licensees operating off-premises suggests that if the requirement is too tight, they will be forced to use a less qualified operator (an answering service, for instance). We feel that it would be better for the system to notify a contract engineer or other trained person, even if it took a few minutes longer. This will only be possible if the constraint is relaxed.

31. The extension of the "out of tolerance" conditions to include monitor point values is unwarranted. A monitor point may produce received field strengths above the licensed limit for a large variety of reasons, many of which have nothing to do with array performance. Indeed, field strength measurement values in urban areas are a very poor indication of radiated field.

33. We agree that "many technical violations involving antenna lighting, overpower operation, improper directional antenna patterns, and overmodulation conditions that could be cured if licensees gave closer attention to monitoring operating parameters." We feel that the only effective way to accomplish this is to spell out the requirements precisely. We do not believe that there is so much variance from one station to another that this cannot be done in a meaningful way. If specific requirements would prove to be burdensome to a particular licensee, the waiver process provides a reasonable solution. We fully support a list of minimum requirements as suggested in this paragraph.

34. It has been our experience that monitoring power alone is insufficient to be confident that the transmitter is operating properly. A failure in the power meter or the remote sample calibration can cause an over power condition which could go undetected for as

much as a week. A shift in tuning could cause a similar problem, with the possibility of spurious emissions. It seems reasonable to require monitoring of the input to the final stage. This does not produce any excessive burden on the operator in our opinion. Modulation monitoring and control is another matter. Modern audio processing is such that the operator really has no control over the modulation level. The rules should continue to require proper adjustment of the modulation level, but should not require the operator to be able to make remote adjustments in the modulation level. This is consistent with current practice. Any requirement for modulation control will add to the cost of ATS systems without producing any real benefit.

35. We regret that the commission is not proposing specified time intervals for observation. Our experience is that current monitoring schedules are more a function of licensee attitude than a function of differences in the technical plants.

36. The elimination of frequency monitoring has not proven to be a problem, so we feel little would be accomplished by requiring continuous monitoring, in spite of the ease with which it could be done in an ATS system.

40. We feel strongly that the time period should be relaxed. Nonetheless, we must take exception to the implication of this paragraph that the three minute rule precludes the use of the public switched telephone network. The PSTN provides one of the most reliable means of communications available to broadcasters today, and its use should be encouraged. Based on our experience, it seems unlikely that broadcasters will uniformly provide the alternate shutdown method. A relaxed time period would permit more experienced operators to be contacted, thereby improving the likelihood of an appropriate response. The public would also be better served because of fewer interruptions of service. We do not feel that this would have any impact on interference levels.

Respectfully submitted,

Peter C. Burk, President
Burk Technology, Inc.